

They are put on an intelligible, neurological basis, from which further investigation concerning their pathological nature can start.

Freud, in one of his latest papers, "Die Laienpsychoanalyse," says: "For the psychoanalyst the neuroses are an annoyance and embarrassment (ein Aergernis und eine Verlegenheit)."

This applies truly to any attempt to attack these conditions on purely psychological grounds.

A more favorable attack can be made when neuroses and psychoses are understood from the standpoint of motility, consisting of its two factors, posture and movement, static and kinetic innervation in their mutual interrelation.

Section of Otology, May 13, 1927

MASTOIDITIS IN INFANTS

ARTHUR M. ALDEN, St. Louis, Mo.

Prior to about two years ago a surgical mastoiditis in an infant was rarely diagnosed except upon the basis of external signs; redness, swelling or subperiosteal abscess. Largely as the result of work done in the St. Louis Children's Hospital and followed up and corroborated elsewhere, we now know that an infant may have a very severe type of mastoid infection capable of producing profound constitutional symptoms and even death without any of the conventional signs of mastoiditis being present.

Routine autopsies on infants who had died as a result of what has hitherto been called cholera infantum, marasmus, or intestinal decomposition have uniformly failed to show causal pathology in the gastro-intestinal tract, but almost without exception pronounced infections of the mastoid antra and middle ears were demonstrated.

Mastoiditis in adults has been classified from a pathological standpoint into two types, coalescent and hemorrhagic. In the former, the local spread of the infection is by direct continuity and the symptoms are, for the most part, the results of pressure.

In the latter, the dissemination of the infective agent takes place by way of the local blood or lymph channels and the symptoms are the result of massive and profound toxic absorption. Each of these types of mastoiditis in the adult has its analogue in the infant. The first type includes the hitherto-accepted classic form of mastoiditis with its local swelling, redness and subperiosteal abscess. The diagnosis in this type of the disease presents no difficulty and is often made by the parent. In the other type of the infection, which in the infant we have called the non-coalescent type of mastoiditis, external signs are as a rule absent and the predominating symptoms are fever, diarrhea and vomiting, which are the result of septic absorption from the infected ears. The diagnosis as to the true cause of this gastro-intestinal syndrome is often missed because the ears of these cases are not carefully examined. The otologic signs in this latter type are change in color and luster of the ear drum to a dirty gray or yellowish appearance. Redness and bulging may or may not be present. A sag in the superior wall of the canal external to the drum is pathognomonic of this condition. Such drums should always be incised, and incision is usually followed by a prompt remission of the intestinal symptoms.

The pediatric treatment of this type of case is very important and consists of supportive therapy in the nature of fluids, Ringer's solution and transfusions, usually administered directly into the superior longitudinal sinus. Only, when in spite of adequate drainage through the ear drums and all supportive measures, the condition of the child as shown by the weight and fever curve becomes progressively worse, do we feel that external drainage of the mastoid antra must be done. Earlier in our work we were reluctant to operate upon these babies until they were almost moribund, and many of our early fatalities could, I am sure, have been prevented had they been operated earlier in the course of the disease. When it is determined that mastoid antrotomy is indicated, the sooner that it is done the better will be the prognosis for the little patient, because these babies often pass from a very fair to an almost dying condition in a few hours.

In our hands all the operations have been carried out under local anesthesia. For this purpose, one-half per cent. novocaine with ten drops of one to one thousand adrenalin to the ounce has

been used with very satisfactory results. The skin over the mastoid and the periosteum covering the mastoid antrum are thoroughly infiltrated. The incision required is usually one and one-half to two cm. in length. The only landmark which it is necessary to see is the posterior-superior margin of the external auditory canal or the posterior-superior margin of the annulus. The infantile mastoid antrum lies just behind and above this point. After the periosteum is elevated, the cortex is removed by a rotary motion of an eight mm. Alexander gouge. This usually completely unroofs the tiny mastoid antrum. All overhanging edges are removed with forceps and the granulations gently wiped or curetted from the mastoid cell. The curette should never be passed forward into the aditus or attic on account of the danger of tearing or displacing the ossicular attachments. When the operation is finished the antrum is lightly packed with a gauze drain and no attempt at surgical closure of the edges of the incision made.

The first dressing is usually changed on the second day after operation, and from that time until the wounds are healed daily dressings should be the rule. Sterile dressing technique is very important, because in those cases which become secondarily infected the convalescence is, as a rule, prolonged and stormy. The gauze drain should be kept in place until inspection of the ear shows the tympanic membrane to be closed or the perforation, if patent, dry. In those cases which show an obstructive mass of adenoids or a nasopharyngitis which does not yield readily to treatment, an adenoidectomy performed before the child leaves the hospital will probably help to prevent recurrence.

In two and one-half years' experience with these cases we have learned many things. At first, cases were operated upon only when disaster threatened. Of the first seventeen cases which came to operation, we were able to save nine. Realizing that some of the cases which died could probably have been saved had they been operated earlier, we became somewhat bolder, and of the next nine cases only three died. In the next series of forty cases we saved all but five, two dying of pneumonia, one of meningitis, one of athrepsia and one of septicemia.

Lantern slide demonstration of cases, temperature and weight charts and technique of the operative procedure.
